

# Agisoft Metashape

Processing Report

12 November 2025



# Survey Data

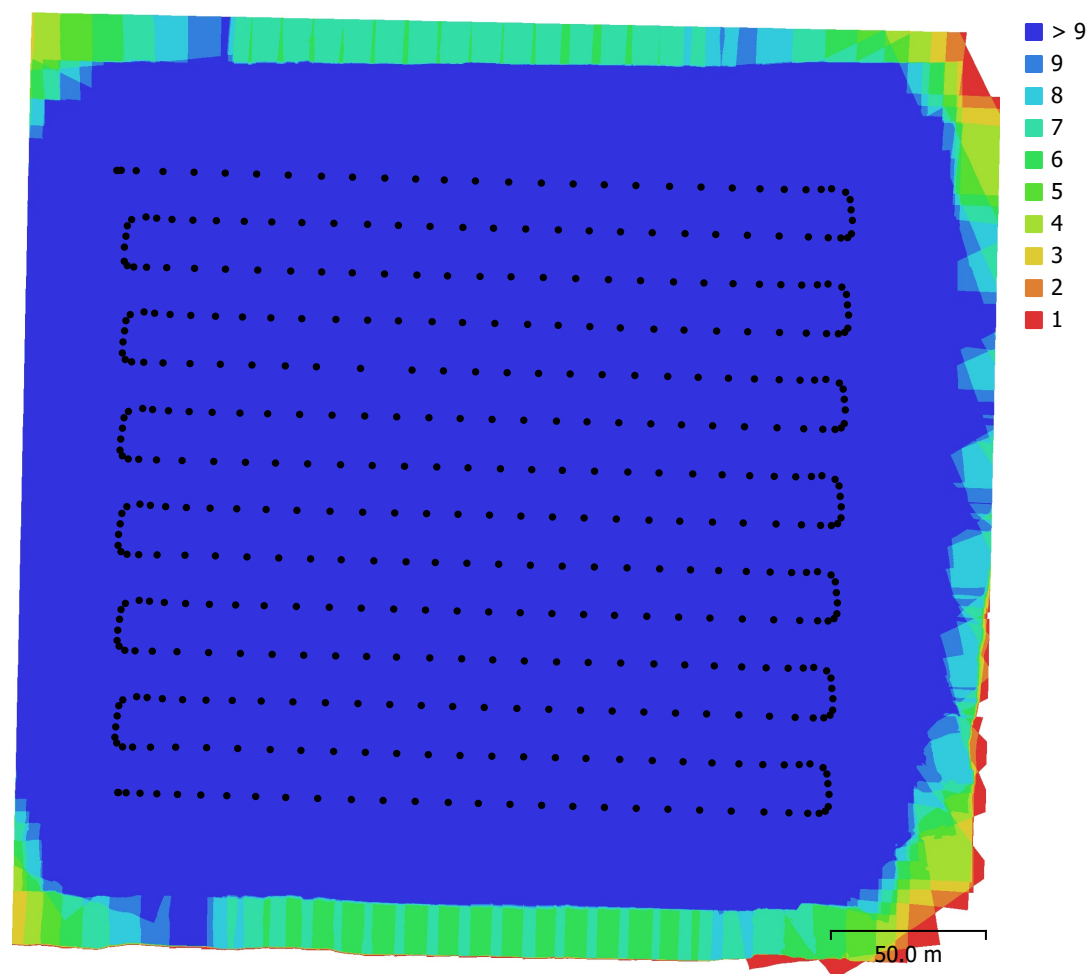


Fig. 1. Camera locations and image overlap.

Number of images:	445	Camera stations:	445
Flying altitude:	101 m	Tie points:	656,387
Ground resolution:	1.22 cm/pix	Projections:	4,911,467
Coverage area:	0.0935 km²	Reprojection error:	0.287 pix

Camera Model	Resolution	Focal Length	Pixel Size	Precalibrated
ZenmuseP1 (35mm)	8192 x 5460	35 mm	unknown	No

Table 1. Cameras.



# Camera Calibration

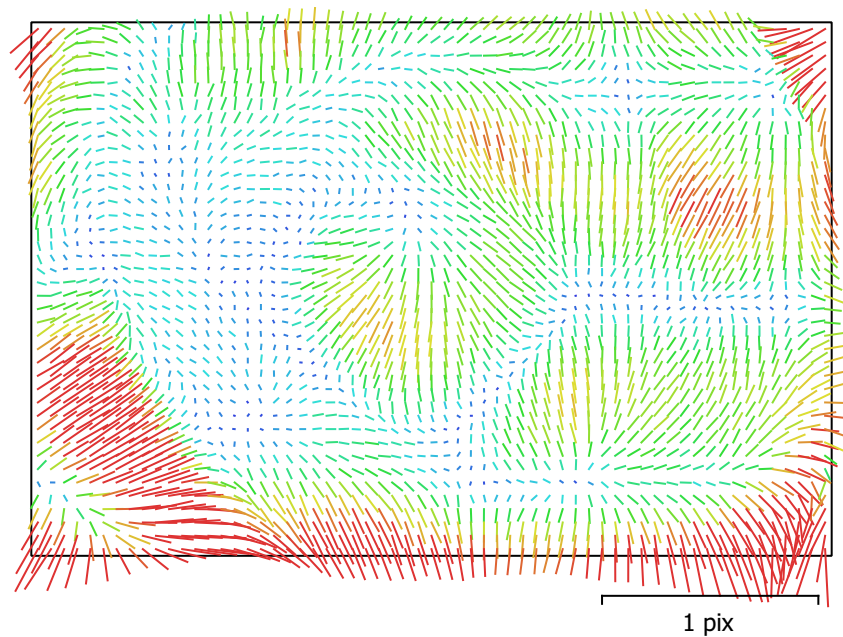


Fig. 2. Image residuals for ZenmuseP1 (35mm).

## ZenmuseP1 (35mm)

445 images

Type	Resolution	Focal Length	Pixel Size
<b>Frame</b>	<b>8192 x 5460</b>	<b>35 mm</b>	<b>unknown</b>

	Value	Error	F	Cx	Cy	K1	K2	K3	P1	P2
<b>F</b>	<b>8198.65</b>	0.38	1.00	-0.06	0.78	-0.52	0.12	-0.35	-0.12	0.14
<b>Cx</b>	<b>-31.2774</b>	0.011		1.00	-0.03	0.03	-0.00	0.02	0.36	-0.01
<b>Cy</b>	<b>48.9851</b>	0.016			1.00	-0.40	0.08	-0.26	-0.07	0.18
<b>K1</b>	<b>-0.049636</b>	8.4e-06				1.00	-0.83	0.86	0.04	0.00
<b>K2</b>	<b>0.0311587</b>	4.2e-05					1.00	-0.96	0.01	0.01
<b>K3</b>	<b>-0.110925</b>	8.2e-05						1.00	0.02	-0.04
<b>P1</b>	<b>-0.000858131</b>	2.6e-07							1.00	-0.02
<b>P2</b>	<b>0.00234824</b>	2e-07								1.00

Table 2. Calibration coefficients and correlation matrix.

# Camera Locations

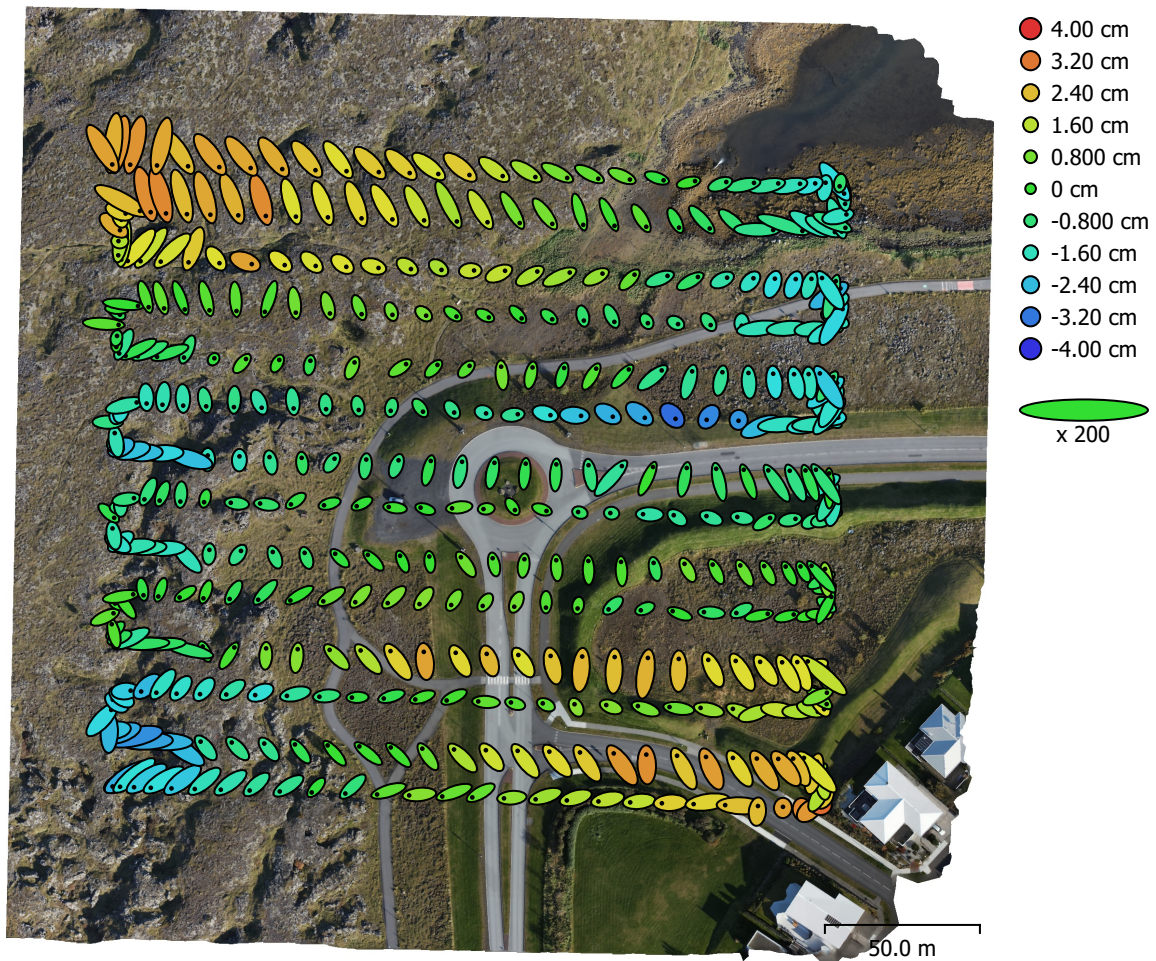


Fig. 3. Camera locations and error estimates.

Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.

Estimated camera locations are marked with a black dot.

X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total error (cm)
2.27797	2.43938	1.48465	3.33763	3.65294

Table 3. Average camera location error.

X - Easting, Y - Northing, Z - Altitude.



# Ground Control Points

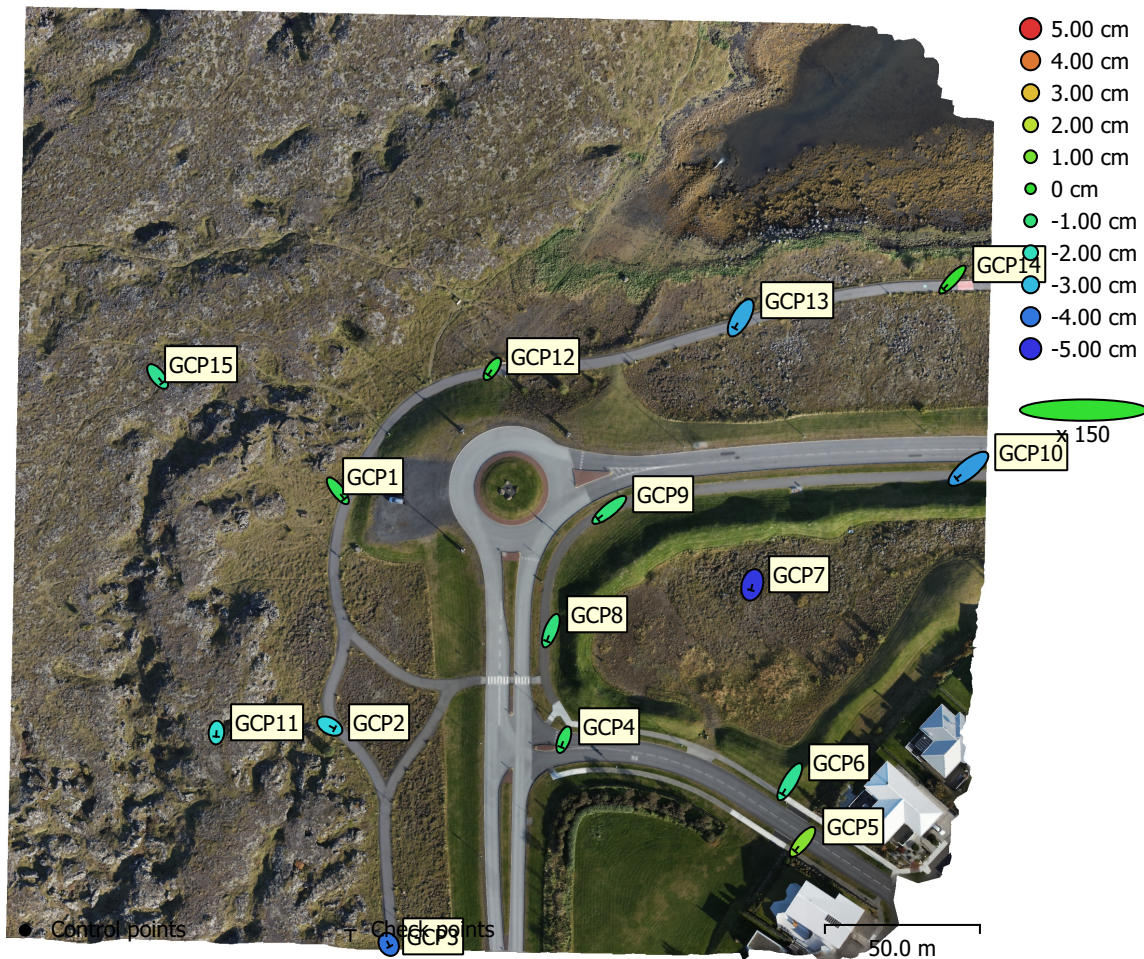


Fig. 4. GCP locations and error estimates.

Z error is represented by ellipse color. X,Y errors are represented by ellipse shape.

Estimated GCP locations are marked with a dot or crossing.

Count	X error (cm)	Y error (cm)	Z error (cm)	XY error (cm)	Total (cm)
15	2.81231	3.48276	2.3693	4.47647	5.06481

Table 4. Check points RMSE.

X - Easting, Y - Northing, Z - Altitude.

<b>Label</b>	<b>X error (cm)</b>	<b>Y error (cm)</b>	<b>Z error (cm)</b>	<b>Total (cm)</b>	<b>Image (pix)</b>
GCP15	2.07569	-2.68667	-1.39635	3.67103	1.025 (54)
GCP14	-3.85807	-4.13091	0.0549618	5.65262	1.080 (13)
GCP13	-2.59755	-4.50053	-3.27731	6.14352	0.880 (73)
GCP12	-1.77604	-2.57347	-0.29819	3.14101	0.806 (47)
GCP11	-0.127056	-1.7368	-2.28814	2.87545	0.886 (46)
GCP10	-5.18003	-4.21554	-3.48872	7.5349	0.889 (9)
GCP9	-4.93289	-3.92823	-0.969911	6.38005	0.506 (46)
GCP8	-1.80582	-4.53039	-1.07379	4.99384	0.535 (38)
GCP7	-0.617501	-2.25484	-4.94029	5.46554	0.635 (61)
GCP6	-3.20653	-5.3292	-1.41892	6.37931	0.670 (33)
GCP5	-3.26153	-3.94988	1.22812	5.26758	0.423 (23)
GCP4	-1.20706	-3.19241	-0.688719	3.48178	0.712 (32)
GCP3	0.489808	-0.911378	-4.04184	4.17217	0.394 (7)
GCP2	2.0969	-1.12613	-2.6322	3.54875	0.458 (31)
GCP1	2.7756	-3.55883	-0.503443	4.54122	0.695 (46)
<b>Total</b>	<b>2.81231</b>	<b>3.48276</b>	<b>2.3693</b>	<b>5.06481</b>	<b>0.750</b>

Table 5. Check points.  
X - Easting, Y - Northing, Z - Altitude.

# Digital Elevation Model

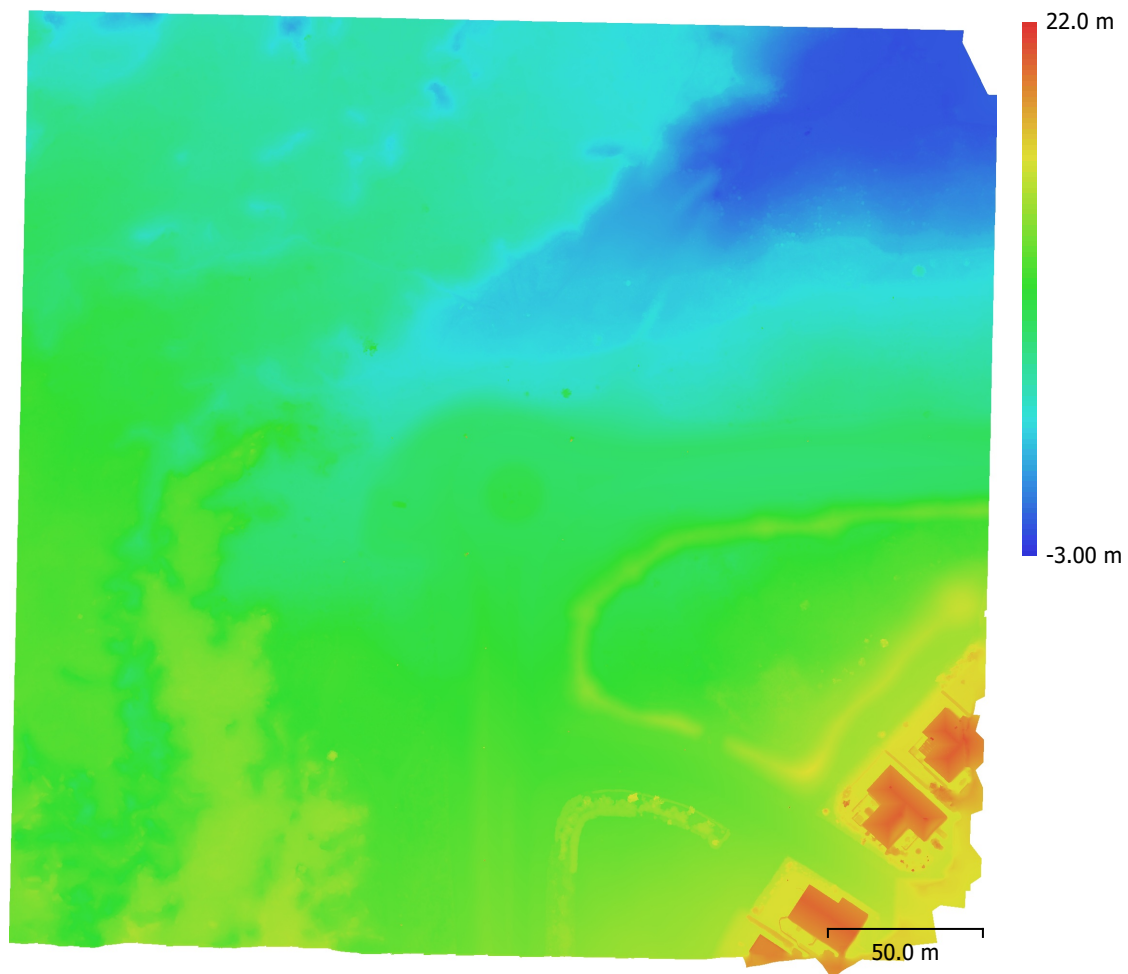


Fig. 5. Reconstructed digital elevation model.

Resolution: 8.56 cm/pix  
Point density: 137 points/m<sup>2</sup>

# Processing Parameters

## General

Images	445
Aligned images	445
Markers	15
Coordinate system	ISN2016 + ISH2004
Rotation angles	Yaw, Pitch, Roll

## Tie Points

Points	656,387 of 2,212,936
RMS reprojection error	0.138696 (0.286532 pix)
Max reprojection error	0.570165 (1.27049 pix)
Mean key point size	2.0647 pix
Point colors	3 bands, uint8
Key points	No
Average tie point multiplicity	7.87072

## Alignment parameters

Accuracy	High
Generic preselection	No
Reference preselection	Source
Key point limit	60,000
Key point limit per Mpx	1,000
Tie point limit	0
Exclude stationary tie points	Yes
Guided image matching	No
Adaptive camera model fitting	No
Matching time	18 minutes 2 seconds
Matching memory usage	2.17 GB
Alignment time	14 minutes 52 seconds
Alignment memory usage	5.37 GB

## Optimization parameters

Parameters	f, cx, cy, k1-k3, p1, p2
Adaptive camera model fitting	No
Exclude corners	No
Optimization time	12 seconds
Date created	2025:11:11 13:16:12
Software version	2.3.0.21427
File size	287.18 MB

## Depth Maps

Count	445
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## Depth maps generation parameters

Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	45 minutes 41 seconds
Memory usage	11.45 GB
Date created	2025:11:12 16:51:26
Software version	2.3.0.21427
File size	6.95 GB

## Point Cloud

Points	711,696,298
Coordinate precision	3.06 mm



<b>Point attributes</b>	
Color	3 bands, uint8
Normal	
Confidence	1 - 68
<b>Point classes</b>	
Created (never classified)	711,696,298
<b>Depth maps generation parameters</b>	
Quality	Ultra High
Filtering mode	Mild
Max neighbors	16
Processing time	2 hours 13 minutes
Memory usage	45.69 GB
<b>Point cloud generation parameters</b>	
Source data	Depth maps
Processing time	7 hours 54 minutes
Memory usage	90.50 GB
Date created	2025:11:12 01:01:33
Software version	2.3.0.21427
File size	10.43 GB
<b>Model</b>	
Faces	12,229,096
Vertices	6,122,462
Vertex colors	3 bands, uint8
<b>Depth maps generation parameters</b>	
Quality	High
Filtering mode	Mild
Max neighbors	16
Processing time	45 minutes 41 seconds
Memory usage	11.45 GB
<b>Reconstruction parameters</b>	
Surface type	Arbitrary
Source data	Depth maps
Interpolation	Enabled
Strict volumetric masks	No
Processing time	30 minutes 7 seconds
Memory usage	13.61 GB
Date created	2025:11:12 17:21:22
Software version	2.3.0.21427
File size	233.37 MB
<b>DEM</b>	
Size	3,727 x 3,641
Resolution	8.56 cm/pix
Coordinate system	ISN2016 + ISH2004
<b>Reconstruction parameters</b>	
Source data	Model
Interpolation	Enabled
Processing time	10 seconds
Memory usage	1.19 GB
Date created	2025:11:12 22:15:58
Software version	2.3.0.21427
File size	66.30 MB
<b>System</b>	
Software name	Agisoft Metashape Professional
Software version	2.3.0 build 21427
OS	Windows 64 bit
RAM	127.76 GB

CPU  
GPU(s)

12th Gen Intel(R) Core(TM) i9-12900K  
NVIDIA GeForce RTX 3070 Ti